

AMENDMENTS TO THE CLAIMS

Claims 1-3: (Canceled)

4. (Currently Amended) An interconnection comprising:
an aluminum copper titanium alloy layer, wherein the aluminum-copper-titanium alloy layer comprises less than 0.57 atomic percent titanium, about 0.5 atomic percent copper and the remainder is aluminum, and wherein 0.2 percent of the 0.5 percent copper is maintained within the aluminum-copper-titanium alloy as $\text{Ti}(\text{Al}, \text{Cu})_2$.

5. (Previously Presented) The interconnection of claim 4, wherein the aluminum-copper-titanium alloy layer comprises about 0.1 atomic percent titanium.

6. (Previously Presented) The interconnection of claim 4, further comprising:
a first titanium layer;
a first titanium-nitride layer;
a second titanium layer; and
a second titanium-nitride layer,
wherein the second titanium-nitride layer overlies the second titanium layer, the aluminum-copper-titanium alloy layer overlies the second titanium-nitride layer, the first titanium layer overlies the aluminum-copper-titanium alloy layer, and the first titanium-nitride layer overlies the first titanium layer.

Claims 7-8: (Canceled)

9. (Currently Amended) An interconnection formed on a substrate of an integrated circuit comprising an aluminum-copper-titanium alloy layer, wherein the aluminum-copper-titanium alloy layer comprises less than 0.57 atomic percent titanium, about 0.5 atomic percent copper and the remainder is aluminum, and wherein 0.2 percent of the 0.5 percent copper is maintained within the aluminum-copper-titanium alloy as $\text{Ti}(\text{Al}, \text{Cu})_2$.

10. (Previously Presented) The interconnection of claim 9, wherein the aluminum-copper-titanium alloy layer contains about 0.1 atomic percent titanium.

11. (Previously Presented) The interconnection of claim 10, further comprising:
a first titanium layer;

a first titanium-nitride layer;
a second titanium layer; and
a second titanium-nitride layer,
wherein the second titanium-nitride layer overlies the second titanium layer, the aluminum-copper-titanium alloy layer overlies the second titanium-nitride layer, the first titanium layer overlies the aluminum-copper-titanium alloy layer, and the first titanium-nitride layer overlies the first titanium layer.

Claims 12-13: (Canceled)

14. (Currently Amended) An integrated circuit comprising:
a substrate; and
an interconnection level disposed about the substrate, the interconnection level having an aluminum-copper-titanium alloy layer, wherein the aluminum-copper-titanium alloy layer comprises less than 0.57 atomic percent titanium, about 0.5 atomic percent copper and the remainder is aluminum, and wherein 0.2 percent of the 0.5 percent copper is maintained within the aluminum-copper-titanium alloy as $\text{Ti}(\text{Al}, \text{Cu})_3$.

15. (Previously Presented) The integrated circuit of claim 14, wherein the aluminum-copper-titanium alloy layer contains about 0.1 atomic percent titanium.

16. (Currently Amended) A multilayered interconnection structure formed on a substrate, the interconnection comprising:
a first titanium layer;
a first titanium nitride layer;
an aluminum-copper-titanium alloy layer, wherein the aluminum-copper-titanium alloy layer comprises less than 0.57 atomic percent titanium, about 0.5 atomic percent copper and the remainder is aluminum, and wherein 0.2 percent of the 0.5 percent copper is maintained within the aluminum-copper-titanium alloy as $\text{Ti}(\text{Al}, \text{Cu})_3$;
a second titanium layer; and
a second titanium nitride layer.

Claims 17-18: (Canceled)

19. (Previously Presented) The multilayer structure of claim 16, wherein the aluminum-copper-titanium alloy layer contains 0.1 atomic percent titanium.

20. (Previously Presented) The multilayered structure of claim 16, wherein the aluminum-copper-titanium alloy layer comprises about 0.5 atomic percent copper and about 0.1 atomic percent titanium.

21. (Previously Presented) The multilayer structure of claim 16, wherein the second titanium-nitride layer overlies the second titanium layer, the aluminum-copper-titanium alloy layer overlies the second titanium-nitride layer, the first titanium layer overlies the aluminum-copper-titanium alloy layer, and the first titanium-nitride layer overlies the first titanium layer.

22. (Previously Presented) The interconnect of claim 4, wherein the aluminum-copper-titanium alloy has a resistance in the range of 2.8 to 3.1 micro Ohm-cm.